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Edited by:

K.E. Hutton, Biological Branch,
Department of Agriculture,
Box 36, G.P.O., Sydney.

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For private circulation to plant pathologists within Australia

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PLANT DISEASE NOTES

FIELD AND FODDER CROPS.

SOME PASTURE DISEASES IN NEW SOUTH WALES:

During the past six months, several diseases of pasture plants have been prevalent and some have been reported for the first time in N.S.W.

Ring spot (Stemphylium sarcinaeforme) of red clover has been quite destructive on the North Coast and Tablelands following wet weather in February and March. The older leaves have been the main ones attacked and severe loss of leaf has occurred in some cases. The incidence of rust (Uromyces trifolii fallens) was also heavy on red clover at Glen Innes.

Root knot (Meloidogyne sp.) occurred on red clover and subterranean clover on the North Coast early this year. Patches in the pastures were dying out and the roots of affected plants were extensively galled.

Rust (Uromyces striatus) was recorded for the first time in N.S.W. on burr medic (Medicago denticulata). Plants collected at Wentworthville and Toongabbie (near Sydney) were heavily infected.

A leaf scald disease of burr medic was collected at Pennant Hills (near Sydney) and a fungus similar to Sphaerulina trifolii was found associated with it. This fungus, which is known to cause burn of clovers and medics in England and the United States, has not been recorded previously in N.S.W.

- J. WALKER.

Department of Agriculture,
Sydney.

YELLOW BEAN MOSAIC ON LUPINS AND SUBTERRANEAN CLOVER:

An assessment of the field incidence of yellow bean mosaic on blue lupins (Lupinus varius and L./Angustifolius) and subterranean clover (A.P.D.R., 6 : 3 : 35, 1954) was made during the late winter and spring of 1954. In general, the disease was rare on the three species. It was virtually absent in the agricultural areas between Perth and Geralton on L. varius and subterranean clover (Dwalganup). Within a twenty miles radius of Perth only a small scattering of infected L. varius and L. angustifolius occurred and in the wetter Southern districts, subterranean clover (Mt. Barker) showed medium to high percentages of infected plants in restricted areas. It is reasonable to expect that in a season of high activity of the aphid vectors, the disease could reach serious proportions in subterranean clover or L. varius, both of which are grown through to maturity. In the case of L. angustifolius, which is grown mainly as an orchard and vineyard green manure crop, the disease is less likely to be troublesome as it generally makes its appearance in spring when the crop is to be ploughed in.

- H.L. HARVEY.

Department of Agriculture.
Perth.

VEGETABLES.

FUSARIUM WILT OF ROCKMELON:

In February, 1955, rockmelon plants (Cucumis melo L.) in a small market garden at Brookvale in the Sydney Metropolitan Area, were found to be affected with a vascular wilt. A species of Fusarium was isolated from the vascular system of affected plants and the disease appears to be similar to Fusarium wilt of rockmelon (muskmelon) in the United States and Canada and incited there by F. oxysporum Schlecht. f. melonis (Leach & Currence) Snyd. & Hans. No Fusarium wilt of rockmelon has been recorded previously in New South Wales.

The rockmelon concerned was not identical with any locally grown variety. Infection was 100% and many of the plants had completely wilted. A number of the fruits showed a rot of the stem end and the fungus was later isolated from some of these fruits. Some cucumber plants (var. Crystal Apple) growing in the same hills as the affected rockmelon plants, were quite healthy.

Seed of a number of rockmelon varieties has been obtained for testing for reaction to the disease, including the varieties Iroquois and Delicious 51, claimed to be resistant to Fusarium wilt in the United States.

- R. J. CONROY.

Department of Agriculture,
Sydney.

FRUIT

GREEN-CRINKLE OF APPLES:

A virus disease described in the N.Z. J. Sci. Tech. Sect. A. 33: 58-61, 1951, by Atkinson and Robbins has been observed in several Granny Smith apple trees on one property at Uraidla in the Adelaide Hills.

Symptoms were as described by Atkinson and Robbins and showed as mild or severe russetted creases or crinkles which distored fruit shape and restricted fruit growth. Frequently, only single fruit on a limb or only one limb on a tree showed green-crinkle symptoms.

The disease, which is not affecting tree vigour, does not appear to be spreading.

Green-crinkle is not considered of major economic importance but does cause appreciable loss on severely affected trees.

This disease has been previously recorded in South Australia, the earliest record being that of G. Samuel for the variety Garibaldi at Coonawarra in the South East district.

Department of Agriculture, Adelaide. - L.C. SMITH.

and

Waite Agricultural Research Institute, Adelaide. - N.T. FLENTJE.

BROWN ROT OF STONE FRUITS IN QUEENSLAND:

Brown rot of stone fruits (Sclerotinia fructicola) was serious early in the 1954-55 season in fruit produced in the "granite belt" of Queensland. Large scale condemnations were made in the Brisbane markets and agents reported that the incidence of brown rot had seldom, if ever, been worse. Brown rot was also prevalent in the orchards and experienced growers who normally have little loss found it not worth while to harvest some crops. Apricots and early peaches particularly were affected.

The normal pattern is for the ripe fruit rot to be the cause of serious loss in the warm, humid conditions characteristic of Southern Queensland at harvest time in midsummer. Usually in Queensland blossom blighting and twig dieback are inconspicuous but these symptoms occurred this season. Associated with the blossom blighting was an unusually wet period at the end of winter and in spring.

Of the last eight seasons in Queensland, the incidence of brown rot has been severe in five. Examination of rainfall figures (for Stanthorpe) gives only one constant relation between between rainfall and brown rot incidence - October rain. In each "bad" year the October rainfall has been much over average. The season's total (August - January inclusive) has also exceeded the average each "bad" year and been under the average in other years, but the differences are relatively smaller and, except for October, there is no constant pattern.

- K. N. SHEA.

Department of Agriculture
& Stock,
Toowoomba, Queensland.

CONTROL OF RASPBERRY AND LOGANBERRY DISEASES IN TASMANIA:

Experiments on spraying for the control of raspberry and loganberry diseases in the past two seasons have shown that good control of anthracnose (Elsinoe veneta) and spur blight (Didymella applanta) can be obtained with two applications of Bordeaux mixture, T.M.T.D., SR406 or Fermate. Copper oxychloride gave some significant control but was much inferior to Bordeaux mixture or T.M.T.D. Sprays were applied at the "green tip" stage and just before the flowers opened - the "white bud" stage.

After two seasons spraying the figures for average percentage of raspberry canes infected with anthracnose were;- Bordeaux misture ("green tip" 6.4.40, "white bud" 3.2.40) - 10.7, T.M.T.D. - 8.9, SR406,- 14.4, Fermate - 4.8, untreated controls - 47.9 (least significant difference 1% = 18.5).

In another experiment after one season's spraying the sigures were:-

Bordeaux mixture (6.4.40 followed by 3.2.40) - 12.7, copper oxychloride (1½ lbs./40 galls. at green tip, half strength at white bud) - 32.4, T.M.T.D. - 9.6, untreated controls - 56.4 (L.S.D. 1% = 15.7).

D.N.O.C. was shown to be as effective as 6.4.40 Bordeaux mixture as a "green tip" spray.

The results on infection with raspberry rust (Phragmidium) were interesting although not of economic importance. Bordeaux mixture was the only material which gave significant control.

After two seasons spraying the figures for percentage of infected leaves were Bordeaux mixture - 20.0, Fermate - 39.0. T.M.T.D. - 40.3, SR406 - 47.3, untreated controls - 49.0 (L.S.D. 1% = 18.3).

- I.D. GEARD.

Department of Agriculture,
Hobart.

MISCELLANEOUS NOTES.

SOME NEW RECORDS OF RUSTS:

In June 1940, rust was prevalent on plots of Mitchell grass grown at the C.S.I.R.O. Field Station at Lawes, about 50 miles west of Brisbane. Astrebla elymoides, A. pectinata, A. squarrosa and A. lappacea were infected. In 1941, rust on Astrebla lappacea was collected at Dalby and at Blackall. Recently specimens of rust on all these species of Astrebla were sent to Dr. G.B. Cummins of Purdue University, Indiana U.S.A. who has identified the rust as Uromyces trichoneurae Doidge. The rust occurs in South Africa on Trichoneura grandiglumis and in India on Tripogon lisboae.

A new host record for Uromyces ehrhartiae McAlp. was reported to me recently by Dr. Cummins. In the United States National Herbarium is a specimen of Tetrarrhena acuminata, collected by F. von Mueller, Soulbourn Range, 1853. Uredia and telia of Uromyces ehrhartiae are present.

The rust on Euphorbia peplus (A.P.D.R. 6.3.50. 1954) was submitted to Dr. G.R. Bisby of the Commonwealth Mycological Institute, Kew. He identified it as Melampsora euphorbiae-gerardianae W. Muell.

Department of Botany,
University of Queensland.

- R.F.N. LANGDON.

COMMONWEALTH MYCOLOGICAL INSTITUTE NOTES.

COMMONWEALTH PHYTOPATHOLOGICAL NEWS:

A specimen copy of the first issue of this new publication of the Institute was included in the envelope with the January number of R.A.M. In addition to news and notes from Canada, Australia, New Zealand, India, Tanganyika and the Gold Coast, and some personal notes, there are items dealing with International Co-operation in Cereal Rust Research, a serious outbreak of Fiji disease of sugar cane in Madagascar, concentric ring blotch of citrus in Nigeria and eradication as a means of solving plant disease problems. First impressions of the new broadsheet are excellent and provided support is forthcoming it should prove just as important a publication in its field as R.A.M. is and should assist greatly in welding plant pathologists throughout the Commonwealth into a unit.

C.P. News is a quarterly publication. It is priced at 5s. stg. per annum and it is commended to Australian plant pathologists for individual subscription. They are urged also to contribute to it. I have been invited by Dr. Wiltshire to keep the Institute informed of developments in Australia, or make arrangements for this to be done. In October last, I sounded Australian opinion on the best course to follow and most States favoured contributions direct from individuals rather than through me. Nevertheless, most scientists need a memory jolt occasionally and here it is. C.P. News will be issued in January, April, July, October and it is expected that the closing date in London for receipt of contributions will be the middle of the preceding month. Items of interest would be new discoveries in plant pathology, including new fungicides and methods, new techniques, new outbreaks of disease, new appointments, etc. Contributions should be pithily written and no longer than the subject demands.

REPORT ON THE FIFTH COMMONWEALTH MYCOLOGICAL CONFERENCE, 1954.

The report, of 159 pages, of this Conference is now available. The report contains interesting papers and discussions given at sessions on the following subjects:-

(a) Plant disease legislation against seed borne diseases.
(b) Losses caused by plant diseases in the Commonwealth.
(c) Cereal rusts and their control.
(d) Eradication of established plant diseases.
(e) Antibiotics in plant disease control.
(f) Low volume concentrate spraying of fruit trees.
(g) Virus diseases.

In addition there are a series of papers on miscellaneous subjects such as black pod and witches broom of cacao, tobacco disease problems, palm oil diseases and blister blight of tea. The price of the report is 15s. stg.

- C. J. MAGEE.

Department of Agriculture,
Sydney.

C.M.I. Official Correspondent.

Helmut Gams' Kleine

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